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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/574,723  | 04/06/2006  | Johannes Reinschke   | 2003P08417W0US      | 1912             |
| 22116 7590 05/19/2009<br>SIEMENS CORPORATION<br>INTELLECTUAL PROPERTY DEPARTMENT<br>170 WOOD AVENUE SOUTH<br>ISELIN, NJ 08830 |             |                      |                     |                  |
| EXAMINER<br>JENNINGS, STEPHANIE M   |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 3725  |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/574,723

**Applicant(s)**

REINSCHKE, JOHANNES

**Examiner**

Stephanie Jennings

**Art Unit**

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 20090515
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments in regard to the 35 USC 112 rejection, see page 6, filed February 11, 2009, with respect to claims 15, 17, 19, 22-23, 24-26 have been fully considered and are persuasive. The 35 USC 112 rejection of November 12, 2008 has been withdrawn.
2. Applicant's arguments with respect to claims 15-18 and 26 have been considered but are moot in view of the new ground(s) of rejection.

***Specification***

3. Amendments to the specification have been reviewed and accepted as being in compliance.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Müller, et al. US Patent No. 6,286,349 B1 in view of Gramckow et al. US Patent No. 6,697,699.
6. Müller teaches:
7. Limitations from claim 15, a method for operating a metal strip mill train, comprising: determining a desired flatness of the strip via a material flow model (strip tension intended value adaptation, figure 4); measuring an actual flatness of the metal strip near a discharge point of the mill train (I, figure 4—added by examiner, see first Office Action dated November 4, 2008);

translating the measured metal strip flatness into flatness values (flatness analysis system, figure 4) (column 2, lines 51-55).

8. Limitations from claim 16, the method as claimed in claim 15, wherein the actual flatness of the metal strip is measured at the discharge point of the mill train (I, figure 4—added by examiner in first Office Action dated November 4, 2008) (column 2, lines 51-55).

9. Limitations from claim 17, the method as claimed in claim 15, wherein the actual flatness is determined as a strip shape pattern (column 2, lines 51-55).

10. Limitations from claim 18, the method as claimed in claim 17, wherein the strip shape pattern is three-dimensional (column 2, lines 51-54).

11. Müller teaches a flatness monitoring system for strip metal, but does not teach such a system with iterative calculations, but Gramckow teaches this feature.

12. Wherein Gramckow further teaches:

13. Limitations from claim 1, controlling a roll stand of the mill train via a strip shape model (3) that uses the desired and actual flatness values as inputs to reduce the difference between the actual flatness and the desired flatness of the metal strip (column 2, line 59- column 3, line 11)

14. It would have been obvious to one of ordinary skill in the art to combine Gramckow's and Müller's inventions because iterative calculations increase the accuracy of the final product.

15. Claims 19-20, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Müller, et al. US Patent No. 6,286,349 B1 as applied to claim 18 above, and further in view of Flormann US Patent No. 6,480,802 B1.

16. Müller teaches a system for flatness measurement of a strip of metal with a camera monitoring system, but does not teach such a system that allows for strip shape pattern determination from a variable of the individual tracks selected from wavelength, amplitude, and phase offset, but Flormann does.

17. Flormann teaches:

18. Limitations from claim 19, the method as claimed in claim 18, wherein a relative length of individual tracks of the metal strip is evaluated to determine the strip shape along with a variable of the individual tracks selected from the group consisting of: wavelength, amplitude and phase offset (column 2, lines 10-38).

19. Wherein Müller further teaches:

20. Limitations from claim 20, the method as claimed in claim 19, wherein a laser measuring device is used to determine the desired flatness of the metal strip (1) (column 1, lines 27-31).

21. Limitations from claim 22, the method as claimed in claim 20, wherein the actual flatness of the metal strip (1) is measured topographically (column 2, lines 54-55).

22. Limitations from claim 23, the method as claimed in claim 22, wherein the values for the desired flatness are translated into values for the actual flatness using the strip shape model (figure 4).

23. Limitations from claim 24, the method as claimed in claim 23, wherein the flatness values are translated in real-time (flatness measuring system, flatness control system, flatness control, flatness intended value adaptation, finishing train process control computer, figure 4) (column 2, lines 29-32).

24. Limitations from claim 25, the method as claimed in claim 24, wherein, the flatness values (flatness measuring system, figure 4) are translated in real-time via an approximation function (finishing train process control computer, figure 4) (column 2, lines 29-32).

25. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Müller's invention with Flormann's invention because Flormann's invention allows for reduced complexity of flatness measurement and use for retrofitting current devices.

26. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Müller and Gramckow as applied to claim 15 above, and further in view of Schmid et al. 5,855,131.

27. Müller and Gramckow do not teach an applied temperature distribution on the strip, but Schmid does.

28. Schmid teaches:

29. Limitations from claim 26, the method as claimed in claim 25, wherein the metal strip shape pattern based on the strip flatness is determined via the strip shape model by applying an assumed temperature distribution in the transverse direction of the metal strip (column 3, lines 15-45).

30. It would have been obvious to one of ordinary skill in the art to combine Müller's and Schmid's invention because applying a specific temperature distribution leads to favorable temperature distribution during strip production.

31. Claims 21, 27, 28, and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Müller and Flormann as applied to claims 20 and 27 above, and further in view of Pirlet US Patent No. 4,541,723.

32. Müller and Flormann do not teach a multi-track laser measuring device, but Pirlet does.

33. Pirlet teaches:

34. Limitations from claim 21, the method as claimed in claim 20, wherein the laser measuring device is a multi-track laser measuring device (column 2, lines 22-45).

35. Limitations from claim 27, the method as claimed in claim 26, wherein the actual flatness of the metal strip is measured by a laser measuring device (column 2, lines 22-45).

36. Limitations from claim 28, the method as claimed in claim 27, wherein the laser measuring device is a multi-track laser measuring device (column 2, lines 22-45).

37. Wherein Müller further teaches:

38. Limitations from claim 29, the method as claimed in claim 27, wherein a flatness limit value is predefined at points to control the mill train (column 2, lines 51-55).

39. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Pirlet's invention with Müller's and Flormann's inventions because the use of a multi-track laser measuring device allows for increased accuracy from repeated measurements and localized measurements. Additionally, the inventions have the commonality of use in measurement of planarity of metal products.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephanie Jennings whose telephone number is (571) 270-7392. The examiner can normally be reached on Monday-Thursday, 7 am - 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J./  
Examiner, Art Unit 3725  
May 18, 2009

/Dana Ross/  
Supervisory Patent Examiner, Art Unit  
3725